METHOD AND SYSTEM FOR OPTIMIZED INSTRUCTION FETCH TO PROTECT AGAINST SOFT AND HARD ERRORS

Abstract

A method of detecting error during transfer of instructions from a data memory to a computer processor. At the time of the commencement of transmission of the instructions, the raw data signal is checked for an error detection code indicating data corruption. If the error detection code indicates no data corruption, the transmission of the instruction to the computer processor is completed. However, if data corruption is indicated, the raw data signal is substituted with a predetermined reserved signal or instruction and transmitted to the computer processor. An attempt is made to correct the corrupted data in the raw data signal and, if it is corrected, the corrected data signal is subsequently retrieved and the corrected data signal is processed by the computer processor. The corrupted raw data signal in the data memory may be replaced with the corrected data signal.